Pengaruh Kadar Vitamin D dan Kalsium Darah Tali Pusat terhadap Panjang dan Berat Lahir Bayi di Kota Bengkulu = Relationshif Vitamin D and Calcium Cord Blood Levels with Length and Birth Weight Among Newborn in Bengkulu City

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Abstrak

Penelitian ini membahas pengaruh kadar vitamin D dan kalsium terhadap panjang dan berat lahir bayi. Jenis penelitian cross sectional melibatkan 144 ibu hamil trimester 3 dan bayi yang dilahirkan. Pemeriksaan vitamin D menggunakan biomarker 25(OH)D dan kalsium menggunakan kalsium total dari serum darah tali pusat. Pengukuran panjang dan berat lahir dilakukan terstandar segera setelah lahir dengan alat merk Seca tipe 231/231. Analisis menggunakan uji korelasi, t test, ANOVA dan analisis regresi linier ganda untuk melihat pengaruh status vitamin D dan kalsium terhadap panjang dan berat lahir dengan memperhatikan variabel pengganggu (umur, paritas, tinggi badan ibu dan ayah, kesesuaian penambahan berat badan ibu selama hamil sesuai IMT pra hamil, status anemia, aktifitas fisik, kecukupan gizi ibu dan merokok).

Hasil yang diperoleh: rata-rata panjang dan berat lahir adalah normal 48.7 cm dan 3090.4 gram, panjang lahir pendek 31.2 % dan BBLR 8.3%. Rata-rata kadar serum 25(OH)D adalah 27.6 ng/dL, status vitamin D kurang mencapai 62,5%. Rata-rata kadar kalsium 10 ng/mL dan hipokalsemia 24.3%. Kadar vitamin D dan kalsium berpengaruh bermakna terhadap panjang lahir setelah dikontrol tinggi badan ibu, kadar haemoglobin dan kecukupan asupan energi ibu. Setiap peningkatan 10 ng/dL kadar vitamin D akan menambah panjang lahir sebesar 0,4 cm dan setiap kenaikan 10 ng/mL kadar kalsium akan menambah 2,22 cm. Kadar vitamin D dan kalsium berpengaruh bermakna terhadap berat lahir setelah dikontrol tinggi badan ibu, kadar haemoglobin, kecukupan asupan energi ibu dan kesesuaian penambahan berat badan ibu selama hamil. Setiap peningkatan 10 ng/dL kadar vitamin D akan menambah 100,9 gram berat lahir dan setiap peningkatan 10 ng/mL kadar kalsium akan menambah 448 gram berat lahir bayi. Hasil penelitian menyarankan ibu hamil perlu meningkatkan asupan vitamin D dan kalsium termasuk zat gizi lain sesuai standar kecukupan gizi ibu hamil dan mendorong agar kulit mendapatkan paparan sinar matahari.

.....This study discusses the effect of vitamin D and calcium levels on the length and birth weight of babies. This type of cross sectional study involved 144 third trimester pregnant women and babies born. Vitamin D examination using biomarkers of 25(OH)D and calcium using total calcium from cord blood serum. Measurements of length and birth weight are standardized immediately after birth with the Seca brand type 231/231. Analysis using correlation test, t test, ANOVA and linear regression analysis to see the effect of vitamin D and calcium status on length and birth weight by considering confounding variables (age, parity, maternal and paternal height, suitability of maternal weight gain during pregnancy according to BMI pre pregnancy, anemia status, physical activity, nutritional adequacy of mother and family smoking).

Results obtained: the average length and birth weight were normal 48.7 cm and 3090.4 grams, short birth length 31.2% and LBW 8.3%. The average serum level of 25(OH)D is 27.6 ng/dL, vitamin D status is less

than 62.5%. The average calcium content is 10 ng /mL and 24.3% hypocalcemia. Vitamin D and calcium levels had a significant effect on birth length after control of maternal height, hemoglobin level and adequacy of maternal energy intake. Every 10 ng/dL increase in vitamin D levels will increase the birth length by 0.4 cm and every 10 ng/mL increase in calcium levels will add 2.22 cm. Vitamin D and calcium levels had a significant effect on birth weight after control of maternal height, hemoglobin level, adequacy of maternal energy intake and suitability of maternal weight gain during pregnancy. Every 10 ng/dL increase in vitamin D levels will add 100.9 grams of birth weight and each 10 ng/mL increase in calcium levels will add 448 grams of baby's birth weight. The results suggest that pregnant women need to increase their intake of vitamin D and calcium, including other nutrients according to the nutritional adequacy standards of pregnant women and encourage the skin to get sun exposure.